Please amend Claims 73 and 90, as follows.

1-72. (Canceled)

73. (Currently Amended) A rotation detecting apparatus comprising:

two members rotatable relative to each other, at least one of said two members forming on the other member at least two beams moving on concentric circles while forming a track as a circle or an arc in conformity with a relative rotation of said two members;

a light receiving portion provided on said other member, said light receiving portion detecting incidence positions of said at least two beams; and

an arithmetic system for calculating angle information respectively corresponding to at least two incidence positions selected from among a plurality of light incidence positions detected by said light receiving portion, calculating corrected angle information in which a decentered amount of a beam is corrected by adding the calculated angle information, calculating and outputting the angle between a straight line linking together at least two incidence positions detected by said light receiving portion and a predetermined reference line based on the calculation results, and detecting information concerning the relative rotation of said two members is detected based on the output angle.

74. (Previously Presented) The apparatus of Claim 73, wherein said one member has at least two light emitting portions for producing the beams moving along the circle or arc.

- 2 -

75. (Previously Presented) The apparatus of Claim 74, wherein said at least two light emitting portions are disposed so that the centers of rotation of the beams moving along the circle or arc may coincide with the center of said light receiving portion.

76. (Previously Presented) The apparatus of Claim 73, wherein said one member has at least two light transmitting windows for the incident light from the back side of said member to the said beams moving along the circle or arc.

77. (Previously Presented) The apparatus of Claim 73, further comprising a condensing optical system or an orifice for making said at least two beams into light spots on said light receiving portion.

78. (Previously Presented) The apparatus of Claim 73, wherein said one member has light deflecting means for changing the direction of incidence of the beams incident on said light receiving portion with the rotation of said one member.

79. (Previously Presented) The apparatus of Claim 78, wherein said light deflecting means has at least two reflecting members.

80. (Previously Presented) The apparatus of Claim 78, wherein said light deflecting means has at least two refracting members.

81. (Previously Presented) The apparatus of Claim 78, wherein said light deflecting means has a diffraction grating.

82. (Previously Presented) The apparatus of Claim 78, wherein said light deflecting means is formed with a plurality of patterns of a predetermined cross-sectional phase forming a reflecting surface forming a predetermined angle with respect to the relative rotation plane of said one member, said patterns being continuously formed in parallel with the rotation plane.

83. (Previously Presented) The apparatus of Claim 82, wherein said patterns of the predetermined cross-sectional shape are linear grooves or projections, or at least triangular polygonal pyramidal recesses.

84. (Previously Presented) The apparatus of Claim 78, wherein said light deflecting means is formed with a plurality of patterns of a predetermined cross-sectional shape forming a refracting surface forming a predetermined angle with respect to the relative rotation plane of said one member, said patterns being continuously formed in parallel with the rotation plane.

85. (Previously Presented) The apparatus of Claim 84, wherein said patterns of the predetermined cross-sectional shape are linear grooves or projections, or at least triangular polygonal pyramidal recesses.

86-89. (Canceled)

90. (Previously Presented) A rotation detection apparatus comprising:
a first member and a second member disposed rotatable relative to each other;
a light source fixed with respect to the first member;

light deflection means provided on the second member, for deflecting ~~into at least~~ ~~two directions~~ a beam from the light source <u>into at least two directions</u> in accordance with relative rotation with respect to the first member, and forming two beams of which illuminating points rotate on concentric circles to form a circle or an arc;

a ring-like sensor which is provided on the first member and receives the two beams; and

arithmetic means which calculates rotation angles of two beams, wherein a decentered amount between a rotation center of the two beams and a center of the ring-like sensor is corrected.

91. (Previously Presented) The apparatus of Claim 90, wherein said light deflection means has at least two reflecting members.

92. (Previously Presented) The apparatus of Claim 90, wherein said light deflection means has at least two refracting members.

93. (Previously Presented) The apparatus of Claim 90, wherein said light deflection means has a diffraction grating.

94. (Previously Presented) The apparatus of Claim 90, wherein said light deflection means is formed with a plurality of patterns of a predetermined cross-sectional shape forming a reflecting surface forming a predetermined angle with respect to the relative rotation plane of said second member, said patterns being continuously formed in parallel with the rotation plane.

95. (Previously Presented) The apparatus of Claim 94, wherein the patterns of a predetermined cross-sectional shape are linear grooves or projections, or recesses of at least triangular pyramidal shape.

96. (Previously Presented) The apparatus of Claim 90, wherein said light deflection means is formed with a plurality of patterns of a predetermined cross-sectional shape forming a refracting surface forming a predetermined angle with respect to the relative rotation plane of said second member, said patterns being continuously formed in parallel with said rotation plane.

97. (Previously Presented) The apparatus of Claim 96, wherein said patterns of a predetermined cross-sectional shape are linear grooves or projections, or recesses of at least triangular pyramidal shape.

98. (Previously Presented) A rotation detection apparatus according to claim 90, wherein a rotation axis of relative rotation of the first member and the second member is different from the rotation center of the two beams.

99. (Previously Presented) A rotation detection apparatus comprising:

a first member and a second member disposed rotatable relative to each other;

a light source fixed with respect to the first member;

light deflection means provided on the second member, for deflecting into at least two directions a beam from the light source in accordance with relative rotation with respect to the first member, and forming two beams on which illuminating points rotate on concentric circles to form a circle or an arc;

a two-dimensional position sensor which is provided on the first member, receives the two beams, and detects an incident position; and

arithmetic means which calculates an angle formed between a straight line linking together two incident positions of the two beams on the two-dimensional position sensor and a predetermined reference line.

100. (Previously Presented) The apparatus of Claim 99, wherein said light deflection means has at least two reflecting members.

101. (Previously Presented) The apparatus of Claim 99, wherein said light deflection means has at least two refracting members.

102. (Previously Presented) The apparatus of Claim 99, wherein said light deflection means has a diffraction grating.

103. (Previously Presented) The apparatus of Claim 99, wherein said light deflection means is formed with a plurality of patterns of a predetermined cross-sectional shape forming a reflecting surface forming a predetermined angle with respect to the relative rotation plane of said second member, said patterns being continuously formed in parallel with the rotation plane.

104. (Previously Presented) The apparatus of Claim 103, wherein said patterns of a predetermined cross-sectional shape are linear grooves or projections, or recesses of at least triangular pyramidal shape.

105. (Previously Presented) The apparatus of Claim 99, wherein said light deflection means is formed with a plurality of patterns of a predetermined cross-sectional shape forming a refracting surface forming a predetermined angle with respect to the relative rotation plane of said second member, said patterns being continuously formed in parallel with said rotation plane.

106. (Previously Presented) The apparatus of Claim 105, wherein said patterns of a predetermined cross-sectional shape are linear grooves or projections, or recesses of at least triangular pyramidal shape.

107. (Previously Presented) A rotation detection apparatus according to claim 99, wherein a rotation axis of relative rotation of the first member and the second member is different from the rotation center of the two beams.